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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,820	06/27/2005	Lutz Kirsten	14219-068US1	8847

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EXAMINER	
BAISA, JOSELITO SASIS	

ART UNIT	PAPER NUMBER
2832	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,820	KIRSTEN, LUTZ	
	Examiner	Art Unit	
	JOSELITO BAISA	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,10,11 and 15-18* is/are rejected.

7)☒ Claim(s) *8,9,12 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/5/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 10, 11, 13 and 15 -18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al.[6911893].

Kodama discloses a base12 comprised of ceramic layers 14 and electrode layers 16, the electrode layers 16 separating adjacent ceramic layers 14, the ceramic layers 14 comprising a ceramic material that has a positive temperature coefficient ; and a first collector electrode 18a attached to a first side of the electrical component and a second collector electrode 18b attached to a second side of the electrical component, wherein the first collector electrode 18a and the second collector electrode 18b contact alternate electrode layers 16; wherein the electrical component has a volume V and resistance R, the resistance R being measured between collector electrodes at a temperature of between 0° C and 40° C (room temperature) [see Table I] [Col. 3, Lines 1-15, Figure 1].

Kodama further discloses removing the binder from and sintering the base, which comprises ceramic materials that has positive temperature coefficient, in an environment having an oxygen content of the environment lower than oxygen content of air [Col. 2, Lines 57-63].

Kodama discloses the instant claimed invention discussed above except for the volume /resistance relationship to be less than 600 $\Omega \cdot mm^3$.

Kodama, in Table I, shows the PTC thermistor used on printed circuit board, although not shown in $\Omega \cdot mm^3$, has a value less than 600 ohms.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the thermistor as taught by Kodama to be applied in a volume/ resistance relationship.

The motivation would have been because of the low resistance values at room temperature, it could be used in a certain volume (in terms of mm^3) and would result in resistance less than 600 ohms [Table I].

Regarding claim 10, Kodama discloses sintering performed in a temperature of 1200 °C [Col. 2, Lines 61-65].

Regarding claim 11, Kodama discloses removing the binder, keeping a temperature of the base to a binder removing temperature at least until sintering is completed [Col. 2, Lines 57-63].

Regarding claims 13, 15, 16 and 17, Kodama discloses sintering performed in the environment with an oxygen content that corresponds to an oxygen content that is present during removal of the binder and decreased after the binder is removed with increasing temperature; [Col. 2, Lines 53-65].

Regarding claim 18, Kodama discloses the oxygen content of the environment increases (reoxidized) after a maximum sintering temperature [Col. 2, Lines 63-65].

Allowable Subject Matter

Claims 8, 9, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reason for allowable subject matter:

Claim 8 recites, inter alia, *oxygen content of the environment is less than 8 vol %.*

Claim 9 recites, inter alia, *removing the binder performed at a temperature of <600° C.*

Claim 12 recites, inter alia, *removing the binder performed in an environment with an oxygen content of the environment is less than 0.5 and < 8 vol %.*

Claim 14 recites, inter alia, *sintering performed in an environment with an oxygen content of the environment between 0.1 and < 5 vol %.*

The references of record do not teach or suggest the aforementioned limitation, would it be obvious to modify those references to include such limitation.

Response to Argument

Applicant's arguments with respect to claims 7-18 have been considered but are moot in view of the new ground(s) of rejection.

Kodama discloses removing the binder from and sintering the base, which comprises ceramic materials that has positive temperature coefficient, in an environment having an oxygen content of the environment lower than oxygen content of air. The ceramic sheets were stacked

with internal electrodes and subsequently burned in a reducing atmosphere of H_2/N_2 (low oxygen content).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elvin G Enad/
Supervisory Patent Examiner, Art Unit 2832

Joselito Baisa
Examiner
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